

Restoring the Balance to Michigan's Farming Landscape

Executive Summary

Restoring the Balance to Michigan's Farming Landscape explores how federal tax dollars create an uneven playing field for sustainable livestock operations in Michigan by overwhelmingly favoring grants of subsidies to polluting Concentrated Animal Feeding Operations or CAFOs. This white paper examines how one Farm Bill¹ program, the Environmental Quality Incentive Program (EQIP), encourages unsustainable agricultural practices that threaten public health and the environment, while putting Michigan's independent and local producers at a severe competitive disadvantage. Since 1996, 37 CAFOs²—more than 15 percent of the 238 in Michigan -- have been cited for environmental violations, with 26 of those receiving fines and penalties totaling more than \$1.3 million. Yet from 1995 to 2011, owners and operators of these polluting facilities received more than \$26 million in taxpayer-funded subsidies.

The white paper explores opportunities to reverse this inequity through the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) State Conservationist's authority to change priorities set for EQIP in Michigan. Today, priorities for EQIP funding heavily favor subsidies that benefit and allow for the creation and expansion of CAFOs, at the expense of sustainable livestock farms.³ With advice from the Michigan Technical Committee, the State Conservationist can restore the balance in the EQIP program by restructuring the NRCS ranking for funding agricultural practices so they increasingly support sustainable livestock and certified organic livestock farm practices instead of those specific to CAFOs. In addition, certain basic measures of accountability in the EQIP application process are needed to ensure funds are awarded to environmentally responsible farmers, such as listing citations for violation of any environmental or health-related laws; documenting compliance with state and federal environmental laws; and verifying successful completion of previously funded projects.

Restoring the Balance also looks at several current EQIP-funded NRCS practices in Michigan and practices under the National Organic Program that are nominally intended to serve the same purpose, such as diverting contaminated water from surface waters. In addition, the report includes case studies of Michigan CAFOs funded under NRCS programs for practices that appear to have directly caused or compounded pollution problems.

¹ The Farm Bill is used here to refer to the federal statute reauthorized by Congress approximately every five years under a variety of names which includes agricultural subsidies and other programs.

² The 37 CAFOs here include those fined or penalized for environmental violations, plus those which were cited for "unpermitted discharges," and is limited to CAFOs that received federal subsidies from Michigan's NRCS office. Many other CAFOs were cited for other permit violations by the Michigan Department of Environmental Quality in this same period but are not included here, and not all environmental violations by Michigan CAFOs have been caught or cited by the agency.

³ Several examples of this inequity are explored in the Appendices to this report.

The *Less=More* Coalition believes the findings in this white paper are the tip of the iceberg, and notes that *Restoring the Balance* is not a comprehensive analysis of the stark disparity in federal Farm Bill support for CAFOs versus sustainable livestock operations. Sustainable livestock operations contacted by *Less=More* have not asked for, nor would all pursue, additional NRCS funding if the identified disparities ended. However, leveling the playing field in order that clean, locally owned and operated livestock operations can compete on a fair and equitable basis against massive, often polluting, taxpayer-subsidized CAFOs should be the goal of everyone seeking to advance agricultural sustainability in Michigan.

This paper was prepared by *Less=More*, a diverse coalition of organizations seeking to create a fair playing field for sustainable farms in Michigan. The coalition believes that less support for polluting factory farms means a more sustainable, greener Michigan. Steering Committee members include: *Beery Farms of Michigan, LLC, Center for Food Safety, Crane Dance Farm, LLC, Environmentally Concerned Citizens of South Central Michigan, Food & Water Watch, Greater Grand Rapids Food Systems Council, Groundswell Farm, Humane Society of the United States, Michigan Farmers Union, Michigan Voices for Good Food Policy, Michigan Young Farmers Coalition, Sierra Club Michigan Chapter and Socially Responsible Agricultural Project.*

Restoring the Balance to Michigan's Farming Landscape

Taxpayer subsidies create an unfair advantage for polluting, industrial livestock operations over sustainable farms, but it doesn't have to be that way.

Agriculture is Michigan's second largest industry, with over 50,000 farms and hundreds of thousands of people growing, selling and processing Michigan food products. The diversity of crops grown in the Great Lakes State is surpassed only by California, and Michigan is one of the few states that could feed its population well from just the food grown in state. Michiganders are increasingly seeking a more direct farm-to-table connection, with one of the fastest growing sectors of the agricultural community here coming from direct sales at farmers markets, local groceries and restaurants and through community supported agriculture.⁴ Commitment to ecologically and socially responsible local agriculture is an exciting trend that provides fresher food, conserves energy and stimulates the local economy by keeping food dollars in the hands of local producers.

This trend toward sustainable agriculture has grown even though the top 10 percent of agricultural operations by size in Michigan received 71 percent of tax-payer funded federal subsidies distributed between 1995 and 2011.⁵ The state's independent meat, poultry, dairy and egg producers face unfair competition from large-scale, industrial livestock operations that have expanded in Michigan during the past two decades. Massive concentrated livestock operations receive substantial subsidy support, even when poor disposal practices of their chemical- and contaminant-filled wastes lead to pollution of water, land and air, and violations of state and federal environmental laws.⁶ This out-of-balance, tax-funded support happens at a time when many independent, ecologically and socially responsible farmers in Michigan are struggling to make ends meet.

Factory Farms Versus Sustainable Livestock Operations

Michigan is home to tens of thousands of farms that raise and sell livestock, dairy products and eggs⁷. Of those operations, just 238 today are classified under environmental laws as Concentrated Animal Feeding Operations or CAFOs. This type of animal warehouse is decidedly not "old McDonald's farm," and in fact, the law defines a CAFO as a livestock

⁴ The value of direct-to-consumer farm product sales was \$58,537,000 in 2009, according to a report on Michigan food and agricultural systems released by the Michigan Department of Agriculture in October 2009.

http://mi.gov/documents/mda/Michigan_Food_System_Profile_292926_7.pdf

⁵ An average of \$24,399 per operation per year, while the bottom 80% of producers received just \$595 on average per year. From the Environmental Working Group website: <http://farm.ewg.org/region.php?fips=26000>

⁶ Smaller operations also have problems with stewardship of natural resources and managing toxic discharges, but the environmental impact and federal subsidies are the greatest among the largest operations.

⁷ The US Department of Agriculture's 2007 Agricultural Census reports Michigan had the following number of farms: 11,631 cattle and calf; 2,453 dairy cow; 2,930 hogs and pigs; 2,762 sheep and goat; 4,831 poultry and egg. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_1_State_Level/Michigan/st26_1_040_040.pdf

operation that produces at least the equivalent amounts of animal manure to 1,000 beef cattle, 700 dairy cows, 82,000 laying hens, 2,500 hogs, or other livestock.⁸ The law also defines a CAFO operation as a facility that confines its animals for at least 45 days each year in an area that is not vegetated. Most CAFOs look and operate more like a factory than a farm and the amount of waste produced is at least as much as the amount of human waste produced by 16,000 people.⁹ CAFOs can hold the animals in open feedlots that have no vegetation or, more commonly, in barns where the livestock are often confined for their entire lives, never able to venture outside.

The greatest environmental and health issues related to CAFOs arise from the concentration of the animals and the resulting concentration of the liquid and solid wastes produced by the animals. CAFO wastes are considered fertilizers intended for application to farm fields. However, in addition to manure, CAFO wastes can contain substantial amounts of residual antibiotics fed to the animals (which has contributed to resistance in humans), chemicals used on the animals and in the facility, and a variety of additional contaminants.

The use of water to wash waste into the open storage pits, or lagoons, at livestock operations leads to a cascading set of problems, including waste storage, waste disposal on the land, and the contaminated runoff from over-application and through drainage systems under fields. At a time when Michigan faces continued water quantity and quality issues, these CAFOs, aided by taxpayer dollars, continue to consume and poison millions of gallons of water each year in the course of operation.¹⁰ Air quality issues are also associated with emissions from CAFO barns, waste storage facilities and the spraying and application of wastes to farm fields. While the animals are kept in facilities that use substantially less land than grazing operations, the amount of CAFO wastes produced requires the use of at least as much land for proper application and disposal purposes as is used by pasture-based farms.

Under federal and Michigan water quality regulations, CAFOs are required to obtain National Pollutant Discharge Elimination System (NPDES) water quality permits because they are point sources for pollution. Depending on the size of the facility, the state might require the company to also obtain a groundwater discharge permit. Smaller operations designed and run virtually the same way might be required to obtain NPDES permits if the state or federal environmental agencies determine they have caused water pollution.

There are no federal requirements for air pollution controls at CAFOs, however, and Michigan law exempts all agricultural operations from state air quality regulations if they use voluntary practices established under the Michigan Right to Farm law. The state law also bars nuisance

⁸ Regulatory Definitions of Large, Medium, and Small CAFOs: http://www.epa.gov/npdes/pubs/sector_table.pdf

⁹ "Risk Assessment Evaluation for Concentrated Animal Feeding Operations," US Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Cincinnati, Ohio, May 2004, page 23

¹⁰ According to the US Environmental Protection Agency (EPA), both manure and animal carcasses contain pathogens (disease-causing organisms) which can impact human health, other livestock, aquatic life, and wildlife when introduced into the environment. Several pathogenic organisms found in manure can infect humans. For the EPA's list, visit: <http://www.epa.gov/agriculture/ag101/impactpathogens.html>

claims regarding air pollution brought by neighbors if the Michigan Department of Agriculture and Rural Development determines that the CAFO is using voluntary, Generally Accepted Agricultural Management Practices (GAAMPs) developed under the Right to Farm Law.

By contrast, sustainable livestock operations are designed and operated to work with the natural landscape and avoid heavy concentrations of animals that produce excessive amounts of contaminated waste. These operations are often diversified, growing a variety of livestock and crops on the same land, allowing for beneficial interactions. “Sustainable agriculture” as defined in federal law¹¹ means an integrated system of plant and animal production practices having a site-specific application that will, over the long term:

- Satisfy human food and fiber needs.
- Enhance environmental quality and the natural resource base upon which the agricultural economy depends.
- Make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls.
- Sustain the economic viability of farm operations.
- Enhance the quality of life for farmers and society as a whole.

According to the National Sustainable Agriculture Coalition, “the basic goals of sustainable agriculture are environmental health, economic profitability, and social and economic equity (sometimes referred to as the ‘three legs’ of the sustainability stool).”¹² For many groups in support of and farmers engaged in sustainable agriculture, additional criteria are used, including the importance of farms operating at an appropriate scale relative to the land and substantially contributing to the local economy.

The *Less=More* Coalition defines sustainable agriculture as a system that emphasizes stewardship of natural and human resources and is grounded in the principle that we must meet our present food needs without compromising the ability of future generations to meet their own. Sustainable agriculture protects and improves the soil, conserves native biodiversity and habitats, and provides viable farm livelihoods as a consequence of food production. Sustainable farms are appropriate for the landscape and the local economy and produce safe, healthy food, treat workers with respect and animals humanely, and sustain communities.

Because no separate standards for sustainability exist, when comparing practices used by CAFOs and sustainable operations, organic standards provide a useful surrogate. For clarity, it must be noted that farm sustainability and USDA organic certification are not the same thing. It is possible for an operation to meet federal organic standards and still be a CAFO that causes pollution. In addition, many farmers using sustainable practices and who sell directly to consumers bypass the time-consuming, labor-intensive organic certification process altogether.

¹¹U.S. Code Title 7, Section 3103

¹² <http://sustainableagriculture.net/about-us/what-is-sustainable-ag/>

The rapid growth in the number and size of CAFOs in Michigan that began in the wake of the national farm crisis of the 1980s did not come about by chance. Echoing the philosophy of Earl Butz, Secretary of Agriculture to President Nixon, pressure on Michigan farmers to “get big or get out” increased in the 1990s along with relaxation of state environmental requirements. Many livestock farmers have been encouraged to turn their operations into CAFOs by land grant university academics and extension services, livestock and agribusiness industry organizations, and state and federal agricultural agencies. During the 1980s Michigan was at the forefront of efforts to regulate pollution from large-scale operations, primarily through applying air pollution regulations. However, between 1991 and 2002 the Michigan legislature and state agencies relaxed or eliminated environmental regulations for CAFOs, arguing that they were non-polluting facilities. While all livestock operations were covered by the environmental regulatory exemptions, CAFOs benefited much more than other operations as they began to externalize the costs of their pollution to the community.

The Disparity

Since 1996, 37 CAFOs¹³ -- more than 15 percent of the 238 in Michigan -- have been cited for Clean Water Act violations, with 26 of those receiving fines and penalties totaling more than \$1,386,713.¹⁴ From 1995 to 2011, owners and operators of these polluting operations received \$26,137,921.29 in taxpayer-funded subsidies.¹⁵ (See Figure 1.)

Figure 1: CAFOs with Clean Water Act Violations Receiving Subsidies in Michigan

(Top 10 facilities with fines highlighted in yellow)

NPDES-Permitted CAFOs	Subsidies 1995-2011	Fines 1996-2011
Maple Row Dairy	2,958,427.68	28,500
River Ridge Farms/ River Ridge Dairy	1,682,050.30	24,400
Bischer Farms	1,650,018.28	
Briggs Farms/ Briggs Farms Inc.	1,479,763.23	5,000
Swiss Lane Farms/Swiss Lane Dairy	1,368,405.73	17,000
Hartland Farms/ B&T family limited partnership/P& M family limited partnership	1,353,668.10	12,200
Hass Feedlot 2 Albert/ Alan	1,290,680.96	
Bradford Dairy/ Bradford Dairy farms	1,284,062.00	24,000
Packard Farms	1,245,770.72	8,000
Walnutdale Farms/ Walnutdale Family Farms, LLC	1,213,546.46	70,500

¹³ The list of 37 CAFOs here include those fined or penalized for environmental violations plus those cited for “unpermitted discharges” and is limited to CAFOs that received federal subsidies from Michigan’s NRCS office. Many other CAFOs were cited for other permit violations by the Michigan Department of Environmental Quality (MDEQ) in this same period but are not included here, and not all environmental violations by Michigan CAFOs have been caught or cited by the agency.

¹⁴ Derived from three lists--CAFO Query, Statewide CAFO Violations, and Closed Ag Enforcement--obtained through FOIA request to MDEQ; received in emails dated 2/2/12 from Lorinda Lehner, FOIA Liaison, Water Resources Division, Department of Environmental Quality, and 2/9/12 from Deana Mercs, Secretary of Water Resources Division of Department of Natural Resources and Environment.

¹⁵ Subsidy amount from Environmental Working Group Farm Subsidy Database: <http://farm.ewg.org/>.

Kurncz Farms	1,106,293.00	5,000
Steenblik Dairy Inc	1,104,118.39	13,724
Berlyn Acres	1,002,187.64	
Schipper Poultry/ Calvin Schipper	756,597.00	
Ryzebol Dairy	625,998.69	15,945
Petro Farms	562,464.00	2,250
Southern Michigan Dairies-CAFO/ Vreba Hoff I & II	498,582.00	773,800
Herbrucks Hennerly/ Herbruck's Poultry Ranch	419,431.00	
Mibelloon Dairy	409,405.51	45,344
New Flevo Dairy/ Flevo LLC/ Waterland Farms	407,060.00	42,000
Circle K Farms	385,218.34	
Aquila Farms (Johannes Martinus Verhaar)	377,667.00	4,000
Michigana Farms/ now VDS Michigana Farm LTD. , Scotts	360,035.00	140,000
Adam Farms	353,549.00	5,000
Double Eagle Dairy	349,276.00	
Hoffland Dairy, Vanderhoff Haley Dairy	329,466.18	20,000
Mericam/ Jelsma/ Waldron Dairy/ SMD III/Jan-Willem Jelsma	247,939.58	49,500
Laier Farms	234,059.00	
Henk de Vor Dairy	224,408.00	11,700
Parisville Dairy	215,626.67	12,150
Den Dulk Dairy	156,639.08	3,100
Van Hoosear Dairy / Elwin/ also Crooked Creek	156,317.00	4,000
Highland Dairy	96,982.56	21,600
Brookview Dairy/ Scenic View Freeport Dairy/ Freeport Dairy	76,137.19	
Beaver Creek	73,915.00	28,000
John Schaendorf Dairy	59,474.00	
EB Ridge Dairy	<u>22,681.00</u>	
TOTAL	\$26,137,921.29	\$1,386,713

A close look at one specific Farm Bill program, the Environmental Quality Incentives Program (EQIP), which is available to both CAFOs and sustainable livestock operations, shows that the EQIP priorities of the Michigan NRCS are heavily weighted toward subsidizing practices and facilities that benefit and allow for the creation and expansion of CAFOs, while under-emphasizing funding that would help sustainable livestock farms.

The disparity goes beyond simply the amount of funds flowing to CAFOs. Certain practices approved by NRCS for funding, such as waste storage facilities, actually increase the concentration of wastes and the likelihood of pollution from these operations, yet EQIP funds are disproportionately used to fund those practices. In addition, CAFOs that have environmental problems and violations often receive EQIP funds to subsidize practices and investments such as anaerobic digesters which are purported to mitigate the pollution caused. This is in sharp contrast with non-agricultural industries where polluting operations are expected to bear the costs of correcting their environmental violations themselves, rather than receive subsidies to pay for complying with the law. In addition, the NRCS subsidy application does not ask applicants about

past or current citations for violations of environmental or public-health laws, so EQIP funds have often gone to CAFOs that are violating these laws.

In 2012, the subsidies authorized by the NRCS under EQIP included at least seven practices dealing with the large amount of waste generated by CAFOs that aren't relevant to an organic or sustainable farm, and which include some of the largest subsidies available. For example, the cost subsidies for a single waste storage facility at one CAFO can be as much as \$225,164, depending on its size and type. A total of more than \$1,079,016 in subsidies (cost share in Michigan 75%)¹⁶ is available to CAFOs that is not an option for sustainable farms. The total amount available is potentially even higher because this figure does not include funds for roofs and covers over waste treatment or storage facilities, which vary depending on the square footage. So, sustainable farmers with little need for systems and structures to stockpile, transport and dispose of millions of gallons of liquified waste generated by thousands of animals had no access to almost \$1.1 million in potential subsidies available to CAFOs in 2012 (See Figure 2.)

Figure 2: A Sampling of Subsidies Available for Waste Mitigation from MI NRCS in 2012¹⁷

Practice	Code	Description	Cost per Unit
Anaerobic Digester - Controlled Temperature	366	A managed temperature waste treatment facility.	\$284,000
Solid/Liquid Waste Separation Facility	632	A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste stream.	\$89,625.56
Waste Facility Closure	360	The closure of waste impoundments (treatment lagoons and liquid storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	\$4,834 total subsidies available in this category
Waste Recycling	633	Using agricultural wastes such as manure and wastewater or other organic residues.	\$2,114.84
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	\$663,536 total subsidies available in this category
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	\$34,906.3
TOTAL			\$1,079,016.70

¹⁶ From NRCS website: <http://www.mi.nrcs.usda.gov/programs/eqip.html> A 75% cost share means farmer shares cost of practice with the government, in this case paying 25% of cost, while subsidy covers 75%.

¹⁷ From the USDA Field Office Technical Guide, Typical Practice Cost, for Michigan: http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

Environmental Quality Incentives Program¹⁸ (EQIP)

The Farm Bill is administered by the US Department of Agriculture (USDA), and much of the funding flowing to farmers is administered through the Natural Resources Conservation Service (NRCS). The Farm Bill and the regulations adopted by USDA to implement its provisions set the basic framework under which these funds are distributed within each state. EQIP was created with the objective of optimizing environmental benefits from the expenditure of these tax-funded dollars. One of the important objectives of the Farm Bill has been to incentivize good conservation and environmental practices to protect the soil, water and other natural resources. EQIP was created in 1996 to fund agricultural practices designed to improve conservation and environmental values, and more recently to help reduce the likelihood of violations of environmental laws. During each reauthorization, modifications to the Farm Bill have refined aspects of the program while attempting to maintain the fundamental purposes.

At the national level, the USDA puts a priority on addressing the following environmental problems through the distribution of EQIP funds:

- Impaired water quality;
- Conservation of ground and surface water resources;
- Improvement of air quality;
- Reduction of soil erosion and sedimentation; and
- Improvement or creation of wildlife habitat for at-risk species.

These priorities are used by the head of the NRCS to allocate available EQIP funds to the agency's state-level programs, overseen by State Conservationists. Because of its design and in recognition of the different challenges faced in different areas, EQIP can be different among states and even between counties in the same state. From 1995 to 2011, Michigan agricultural operations received \$80,609,431 in EQIP funds.¹⁹

Decisions are made in three stages (Figure 3). The State Conservationist, a federal civil servant appointed by the USDA chief, pursues a two-step process for determining the distribution of EQIP funds within the state, with advice from a State Technical Committee. The Michigan Technical Committee²⁰ is comprised of both governmental and non-governmental leaders representing agricultural interests as well as environmentally related disciplines. The committee is chaired by the State Conservationist, and he or she makes final decisions regarding program management and implementation of the Farm Bill programs and funds.

During the first step of his or her decision-making, the State Conservationist identifies the priority natural resource concerns in the State that will be used to help determine which

¹⁸ From NRCS website: <http://www.mi.nrcs.usda.gov/programs/eqip.html>

¹⁹ From Environmental Working Group website:
<http://farm.ewg.org/progdetail.php?fips=26000&progcode=totaleqip>

²⁰ Description on NRCS website: <http://www.mi.nrcs.usda.gov/partnerships/mtc.html>

applications will qualify for EQIP assistance. These priorities may include specific geographic areas, such as impaired watersheds, which will receive priority in the distribution of funds. In Michigan, the Lake Erie watershed and the Saginaw Bay watershed have both been prioritized by NRCS.²¹

After identifying the priority natural resource concerns, the State Conservationist, with advice from the State Technical Committee, decides how funds will be allocated, what practices will be offered, what the payment rates will be, the ranking process to be used to prioritize contracts, and which will be delegated to the local level. These decisions by the State Conservationist set the parameters for the kinds of funding that will be made available across the state and have set up the competitive advantage given to CAFOs over sustainable livestock operations.

Once the State Conservationist has determined these priorities, NRCS County or District Conservationists, with the advice of local work groups, adapt the State program to local conditions consistent with the priorities set at the state and national levels. Decisions on specific applications for funds are made at the local level. The discretion at the local level can also affect the fairness of distribution among specific farms, but the framework set by the State Conservationist ultimately has the biggest impact by defining what types of practices will be funded and at what rates.

Unfortunately, our research finds no documentation of follow up by NRCS after funds are disbursed, and it is not clear whether or not all CAFO operations have spent their funds for the practice they received them for or if the subsidies served their purpose of mitigating pollution through a specific practice. The case study regarding the Bakerlads Farms Dairy CAFO (Appendix 11) provides an example of the apparent lack of accountability and follow-up on the use of EQIP funds.

Figure 3: The NRCS Subsidy Decision-Making Process in Michigan



²¹NRCS Media Advisory, May 4, 2012: http://www.mi.nrcs.usda.gov/news/12%20NewsReleases/GLRI_Sign-Up_5-4-12.html

Michigan EQIP Priorities Biased in Favor of CAFOs

Over the last few decades, federal and state agricultural agencies, major agribusiness interests, and the agricultural programs at land grant colleges have increasingly encouraged livestock farmers to modify their operations to become CAFOs, despite the huge amounts of waste they generate. CAFO proponents contend that industrialized operations are more efficient than traditional farms because they reduce labor costs through mechanization and concentration, allow closer monitoring of inputs and production, and substantially increase the number of livestock at each operation. Agricultural research and teaching has been skewed towards increased concentration of livestock. It is not uncommon to find farmers who have felt pressured to turn their operations into CAFOs despite their personal distaste for this way of raising livestock.

Like many new technologies, the explosive growth of the CAFO industry got well ahead of the science on the safe disposal of the waste generated as well as food safety and environmental and health problems associated with these operations. The aggressive push for CAFOs failed to account for the environmental challenges of livestock concentration and the sheer size of the operations, from drastically increased air pollution to millions of gallons of liquid waste.

Rather than admit that the conversion of agricultural operations into industrial scale operations means they face many of the same problems as sewage treatment facilities or factories, CAFO proponents argue that voluntary programs and incentives are the best way to achieve pollution reductions from CAFOs. Paradoxically, CAFO proponents argue against regulations that would set an enforceable environmental bottom line while simultaneously advocating for incentives and subsidies that they argue will help mitigate pollution from these facilities.

In fact, not only are several of the CAFO practices funded by EQIP actually contributing to pollution from CAFOs, the bias in favor of CAFOs versus pasture-based operations comes through clearly in the criteria for the 2012 funding cycle²². The appendices to this report explore several of the most extreme examples of this funding bias. For example, EQIP offers funding for the construction of waste lagoons (NRCS Practice 313) and the installation of field drainage tiles under farm fields (Practice 606—Subsurface Drains) where CAFO wastes are spread, both of which are practices sustainable livestock operations do not use.

In addition, currently NRCS applications do not require an applicant to demonstrate compliance with current Clean Water Act National Pollution Discharge Elimination System (NPDES) permits or other legal requirements. Also, accountability regarding completion of funded work or projects is not built into the system, leading to some operations never completing funded

²²Page 3 of USDA/NRCS Fiscal Year 2012 EQIP Guidance Document:
<http://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

activities or accounting for use of those funds. Future funding under EQIP or other NRCS programs is not tied to reporting and compliance with requirements for previous subsidies.²³

What a Waste: Tax-Funded Lagoons

One of the highest priced subsidies in EQIP is the cost share for the construction of waste storage facilities, or lagoons. Under EQIP, CAFO operators in Michigan are eligible for a 75% subsidy of the cost to build new waste storage lagoons, with subsidies reaching as much as \$173,656. In 2012, EQIP guidance for Michigan allowed for up to a 125% subsidy “of current needs” for lagoons for livestock operations that are expanding.²⁴

Lagoons are designed to hold waste washed out of the barns until it can be disposed of on farm fields, often for as long as six months. CAFO lagoons are not designed to treat the waste while it is stored but deterioration of the wastes in the lagoons can contribute to pollution problems. Swine CAFOs are generally designed with the hog barn built directly over a waste pit, requiring large fans to run all the time to ensure that the animals or people working in the barn do not suffocate from the toxins that off-gas from the concentrated waste. CAFO lagoons are a significant source of air pollution, and when the waste is spread on fields, emissions can cause significant air pollution for the local communities.

Although waste storage funding is prioritized under EQIP, increasing the storage capacity for CAFO wastes rarely resolves pollution problems. The lack of adequate waste storage facilities is usually tied to either too many animals or too little available land for proper disposal of the wastes, or both. Increasing storage merely allows the operator to delay waste applications on frozen or snow covered ground, on growing crops, or in the rain.

Yet, the storage of massive amounts of waste can create more problems in the long run by increasing the backlog of wastes to be applied during good weather without increasing the capacity of the fields to absorb the nutrients. At least one Michigan CAFO had more than three years of waste stored on its operation when it went into bankruptcy. In direct opposition to recommended practices, the new owners were allowed by the state of Michigan to dump on fields at rates well above the rate at which the waste could be added to soils for optimum plant growth, causing illegal discharges of pollution into surrounding waterways²⁵.

A CAFO seeking EQIP funding to build a lagoon must have a Comprehensive Nutrient Management Plan (CNMP), which documents “practices and strategies adopted by livestock operations to address natural resource concerns related to soil erosion, livestock manure and disposal of organic by-products.”²⁶ CAFOs are eligible to receive federal funding to develop

²³ Ibid. One example is the Hartland Farms CAFO in Lenawee County, which received subsidies in 2011 despite failing to have an up-to-date CNMP, which NRCS rules require to receive subsidies.

²⁴ Ibid.

²⁵ Vreba-Hoff Dairies in Hudson had hundreds of violations of its NPDES permit and court orders before filing for bankruptcy and being taken over by Southern Michigan Dairies (SMD), a subsidiary of Rabo Agrifinance, in November 2010. Since then, SMD has been cited for several violations. <http://www.nocafos.org/violations.htm>

²⁶ Definition from NRCS website: <http://www.wi.nrcs.usda.gov/technical/cnmp.html>

these plans every five years, and may receive anywhere from \$11,000 to \$16,000 in support as well as being able to apply for funds to pay for the required Technical Service Provider who works with them to develop their plan.²⁷ By contrast, under the 2013 EQIP Organic Initiative, organic operations wishing to qualify for EQIP funds are required to “develop and carry out an Organic System Plan (OSP) or carry out practices consistent with an OSP” but are limited to a maximum amount of EQIP funds of \$20,000 per year, and \$80,000 during a six-year period.²⁸ In this way, CAFOs are allowed under EQIP to receive almost as much funding just for their CNMPs as organic operations are allowed to receive in total for all EQIP-related projects.

Taxpayer Funding For Voluntary Environmental Practices

In addition, although the subsidies provided under EQIP are taxpayer-funded, many of the standards NRCS cites in awarding funds are voluntary guidelines that cannot be enforced. The NRCS requires the lagoon described in the Comprehensive Nutrient Management Plan to be designed to specific standards in order to receive the subsidy. However, the siting of lagoons, which is a critical factor in reducing air pollution, the potential for spills and discharges, and other environmental problems, is subject only to Michigan’s voluntary Generally Accepted Agricultural Management Practices (GAAMPs).

GAAMPs, created under the Michigan Right to Farm law, are voluntary practices that are supposed to address environmental problems on agricultural operations, but in reality they make it easier for CAFOs to pollute. (See Figure 4.) If a CAFO or farm is verified as being in compliance with GAAMPs, the operation qualifies for exemptions from nuisance claims brought by adjacent or nearby neighbors. Michigan’s process of annually updating the siting GAAMPs²⁹ in 2012 was done by a 14-member committee that had just three environmental experts, one local government representative, and 10 representatives of the agricultural industry, agriculture agencies and academics from Michigan State University’s agriculture school or extension service.

Once drafted, these voluntary practices are ultimately adopted by the Michigan Commission of Agriculture and Rural Development. In recent years extensive scientific documentation about the health and environmental hazards posed from CAFO air pollution from production areas (lagoons, barns, etc.) and land application, as well as the importance of incorporating accurate environmental information into the GAAMPs has been submitted to the GAAMPs manure management and siting committees. Nonetheless, the Commission and its advisory committees have failed to substantially strengthen these guidelines since they were first drafted under the Right to Farm law in 1999.

²⁷ NRCS/USDA Document: Fiscal Year 2013 National Practice Payment Rates for Conservation Activity Plans funded through the Environmental Quality Incentives Program:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1049335.pdf

²⁸ From USDA/NRCS website, information on Organic Initiative: <http://www.mi.nrcs.usda.gov/programs/eqip.html>

²⁹ MDARD 2012 Generally Accepted Agricultural Management Practices Document:

http://www.michigan.gov/documents/mdard/2012_FINAL_SITE_SELECTION_GAAMP_378548_7.pdf

One example of a problem routinely cited is that the voluntary practices defining the siting of lagoons and other structures in Michigan allow for what has been described as a “sacrifice zone” for air pollution around the facilities. The 2012 Site Selection GAAMPs allow a CAFO operator to build a lagoon or barn within 600 feet of their property line even if there are as many as five non-farm residences in traditional agricultural areas and still be verified by the Michigan Department of Agriculture and Rural Development as in compliance and thus to be immune from nuisance claims brought by homeowners and neighbors. By treating new or expanding CAFOs as if they are the same as traditional agricultural operations, NRCS is subsidizing expansion and siting of new CAFOs in areas where substantial health and environmental impacts may be caused.

In the 1980s the state of Michigan found that some CAFOs were violating the state’s air pollution act prohibition on nuisances. The Legislature later modified both the state air pollution act³⁰ and the Right to Farm Act so that any agricultural operation verified as complying with GAAMPs was deemed immune from nuisance claims, undermining the prior protections for neighbors of CAFOs against nuisances³¹. In the early 2000s, the US Environmental Protection Agency (EPA) concluded that Michigan’s voluntary manure management GAAMPs were not equivalent to the water quality protections required under the Clean Water Act, as had been claimed by CAFO proponents. The EPA concluded that they could not be used to claim that the voluntary program of compliance under the Right to Farm Law was equivalent to proper environmental regulations that apply to all other industries. Nonetheless, federal taxpayer dollars in the EQIP program use these voluntary manure management practices as acceptable criteria for demonstrating compliance with environmental protection objectives of the program.

The funding of field tiles under farm fields intended to be used for CAFO waste application is another, even clearer example of the disconnect between EQIP priorities and environmental protections. Field tiles are conduit such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water. Starting in the early 2000s, a water monitoring program around CAFOs in Michigan showed that application of CAFO wastes to farm fields which have field tiles routinely results in direct discharges of CAFO wastes into surface waters of the state and nation³².

A study at Bowling Green University in Ohio published in 2000 showed that the application of CAFO wastes onto farm fields with field drainage tiles could result in a discharge to surface waters in as little as 45 minutes³³. Despite the scientific evidence that field tiles are directly responsible for discharges of wastes into surface waters, installation of field tiles is still approved for funding under EQIP for CAFO operations.

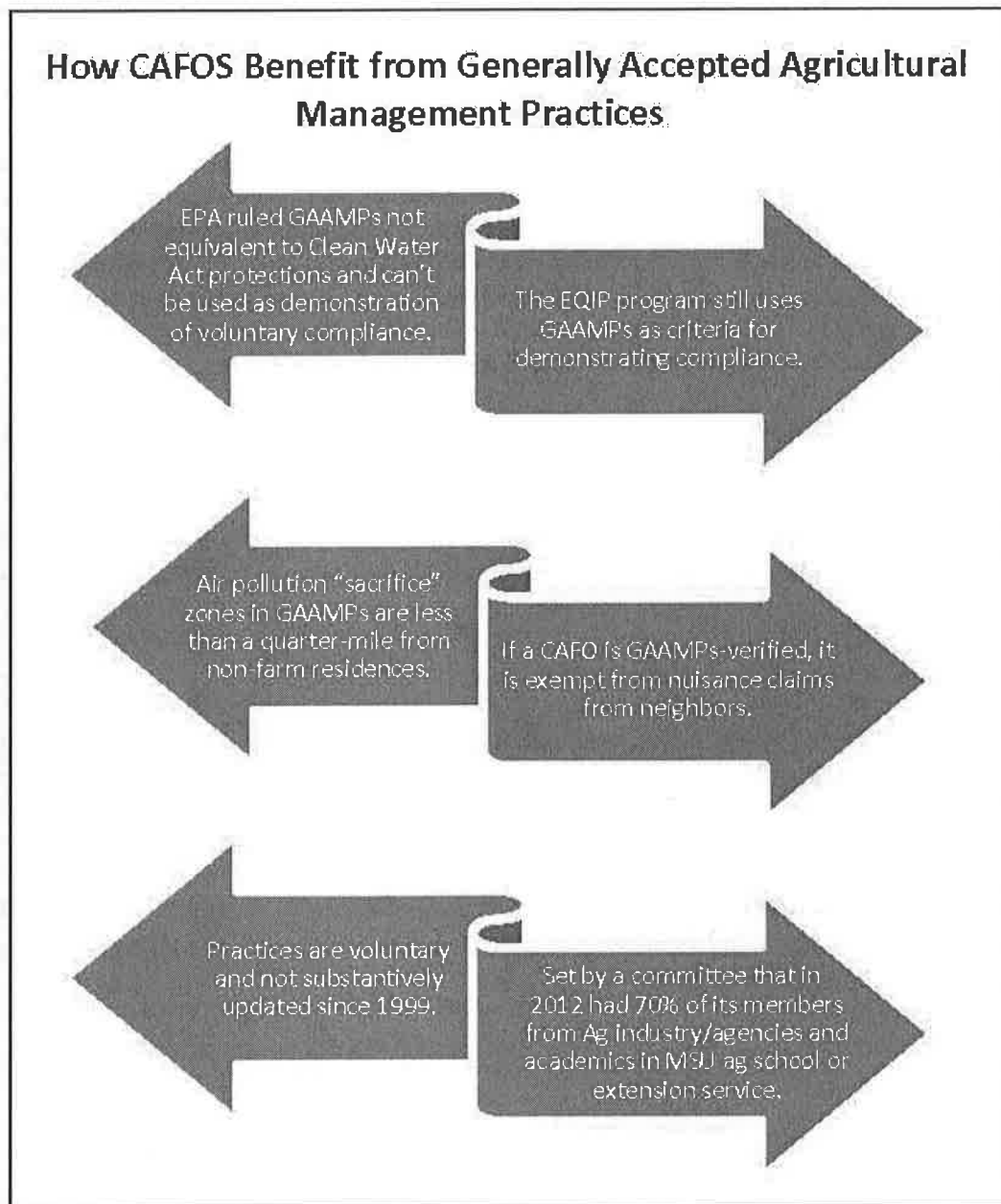
³⁰ Michigan Natural Resources and Environmental Protection Act, Section 324.5501, <http://legislature.mi.gov/doc.aspx?mcl-324-5501>

³¹ Michigan Right to Farm Act, Section 286.473 <http://legislature.mi.gov/doc.aspx?mcl-286-473>

³² Final report by Janet Kauffman and Kathy Melmoth, R.N., for 2001-2003 ECCSCM Monitoring Project of 79 sites, 430 samples: <http://www.nocafos.org/finalreport.htm>

³³ From Soil Science Society of America Journal, 64:2103–2109 (2000): “Potential for Earthworm Burrows to Transmit Injected Animal Wastes to Tile Drains” by Martin J. Schipitalo and Frank Gibbs.

Figure 4:



EQIP Funding for Sustainable Livestock Operations

Under Michigan's EQIP priorities, several categories of funding are potentially beneficial to sustainable livestock operations, particularly since the 2008 Farm Bill reauthorization, and organic standards are gaining more support. Such practices as fencing to keep livestock out of waterways can be applied for by sustainable livestock operations. However, in contrast to the

funding for waste storage facilities, the 2012 EQIP guidance for Michigan specifically prohibits seeking funding for operations to start a livestock grazing program or to assist with expansion of the acreage dedicated to grazing.³⁴

Leveling the Farm Field in Michigan

Ending the unfair advantages provided to CAFOs through taxpayer subsidies is a critical step in providing an even playing field for livestock farmers who are working hard to produce good food on sustainable farms. *Less=More*, a coalition of groups seeking to create a fair playing field for sustainable farms in Michigan, recognizes there are many standards set at the national level under the Farm Bill that put sustainable agricultural operations at a disadvantage as well, but here in Michigan the NRCS State Conservationist is in a position to make the following changes to move this process forward. *Less=More* makes these recommendations:

- Require CAFO applicants to list all citations for any violation of environmental or health related laws;
- Require CAFO applicants to document compliance with state and federal environmental laws, including keeping up to date records and Comprehensive Nutrient Management Plans;
- Institute accountability in the system through:
 - Requiring independent verification of whether operations complete the work as it was funded;
 - Withhold funds until all prior subsidized work is documented;
 - Require testing of the effectiveness of practices, both in general and in specific sites, with an independent scientific committee to review and approve practices authorized for subsidies;
 - Eliminate practices from EQIP funding that are not demonstrated to provide environmental benefits.³⁵
- Restructure the practice ranking system to invest the majority of EQIP funds into practices designed to achieve the environmental objectives of the program, including

³⁴ Page 3 of USDA/NRCS Fiscal Year 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

³⁵ Examples of problem practices can be found in the Appendices of this report.

fully funding planning based on practices for traditional sustainable livestock and certified organic livestock farms;³⁶

- Retrain District and County Conservationists in sustainable practices so that they can objectively assess proposed projects;
- Make it a priority for local and district conservationists to reach out to sustainable farmers in their region and educate them about the funding opportunities available through the EQIP program; and
- Streamline the paperwork for organic farmers applying for EQIP funds by allowing the use of some of their organic certification documentation in an EQIP application.

Creating a fair playing field for sustainable farms in Michigan would benefit the state in many ways, and the State Conservationist has the power to do this. The steps outlined above will lay the groundwork for greater equity for sustainable farmers to compete with the large-scale concentrated livestock operations (CAFOs). These changes will require that CAFOs be held accountable for their environmental compliance and whether or not they spent subsidies on the practices for which they were awarded. These changes will begin to reprioritize the way we spend taxpayer money to more accurately reflect the growing interest of consumers in supporting local, sustainable farmers.

Conclusion

The goal of *Restoring the Balance* is to shed light on the inequity of taxpayer subsidy distribution in Michigan and to begin a conversation about how we can bring balance and fairness back to the farming landscape. This report and appendices document many of the challenges faced by sustainable and organic farmers in a system that favors large-scale, industrial livestock operations, but it is by no means a complete examination. It is the tip of the iceberg and meant to spark a statewide conversation about a vital component of Michigan's economy that impacts the environment and our health.

As a state still struggling to pull itself out of difficult economic times, it behooves us to do all we can to give ecologically and socially responsible local agriculture a chance to compete on equal terms with CAFOs and make Michigan's agriculture more resilient and sustainable. It is also in our state's best interest to do all we can to protect our environment and public health for future generations.

³⁶ Examples of practices required for organic farms can be found in the subsidy comparisons found in the Appendices to this report.

Appendix 1: NRCS Conservation Practices Relating to Waste

The CAFO system is predicated on a fundamental problem – too many animals generating too much waste for the land to naturally absorb. This flawed concept spawns a chain of costly measures such as waste storage facilities, waste transfer systems, solid/liquid waste separators, and biodigesters that seek to address the initial problem but often create more issues.

The EQIP subsidies distributed in Michigan each year are overwhelmingly devoted to allocating money to ameliorate an unsustainable system. Essentially, CAFO operators take a perfectly good natural material — animal manure — and concentrate it until it becomes an environmental issue, and then they receive federal money to address the problem they have created. Meanwhile, sustainable farmers who work with nature and have appropriate numbers of animals for the amount of land available, have little need for funds to address such problems.

In the 2012 USDA Field Office Technical Guide Typical Practice Cost for Michigan, there were seven practices addressing aspects of dealing with the large amount of waste generated by CAFO operations that have no relevance to an organic or sustainable farm (see chart below).¹ Some of these practices represent the largest subsidies available. For example, depending on the size and type of structure, the cost per unit of a waste storage facility can be as much as \$225,164. A total of more than \$1,079,016 in subsidies (cost share in Michigan 75%)² is available to CAFOs that are not an option for sustainable farms. The total subsidy amount available is higher, because this figure does not include funds available for roofs and covers over waste treatment or storage facilities, which vary depending on the square footage needs of the CAFO.

Since sustainable farmers incorporate manure as part of the natural cycle of life on the farm, applying it to land as it is generated by a relatively small number of animals, they have no need to build systems and structures to stockpile, transport and dispose of millions of gallons of waste generated by thousands of animals -- and thus, have no access to roughly \$1.1 million in potential EQIP subsidies under the current Farm Bill.

Practice	Code	Description	Typical Installation	Cost per Unit
Anaerobic Digester - Controlled Temperature	366	A managed temperature waste treatment facility.	Anaerobic Digester. Get an Engineer's design cost estimate.	\$284,000
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	flexible membrane cover material	\$2.04 per sq.ft.
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	Hoop Roof Structure with fabric cover for Dry Stacking Waste Storage Facilities. Typical size is 58' x 70' over a typical 50' x 70' dry stacking facility with modular block walls. Roof to be	\$4.81 per sq.ft.

¹ USDA Field Office Technical Guide Typical Practice Cost for Michigan:

http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

² From USDA/NRCS Fiscal 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

			measured by sq ft of facility footprint.	
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	Rigid Roof structure. By sq ft of facility footprint	\$9.89 per sq.ft.
Solid/Liquid Waste Separation Facility	632	A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste stream.	Typical setting is headquarters on a dairy Farm with sand bedding. Typical 16ft wide by 200 ft long concrete lane on a 0.25% slope with 2 ft walls on 1 side, 4 ft head wall at inlet. Includes concrete apron for the sand recover area. Used to address a nutrient management resource concern. Construction includes 4" compacted sand under 2 ft wall and footer, sand lane and 4ft inlet footer/wall, and solid recovery area-installed; concrete for the 5" plain concrete settling lane, 14 ft x 200 ft installed, 4 ft wall at inlet to settling lane, 4 ft reinforced concrete wall on 3 sides at the inlet to the settling lane, and plain concrete ramp from settling lane and solid recovery area, 80 ft x 200 ft, and a reinforced concrete wall on 1-side of sand lane, 2 ft reinforced concrete on 1side, 3 ft footer backfilled- installed.	\$89,625.56
Waste Facility Closure	360	The closure of waste impoundments (treatment lagoons and liquid storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Embankment or excavated waste impoundments - After manure has been removed using Nutrient Management or Waste Utilization. Removal of residual waste, backfill of impoundment with leveling and seeding. Includes removal of embankment (or fill to bank grade), and shaping. Approx size 110' x 100', 6 feet deep with 4 foot berms.	\$3,967
Waste Facility Closure	360	The closure of waste impoundments (treatment lagoons and liquid storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Embankment or excavated waste impoundments - After manure has been removed using Nutrient Management or Waste Utilization. Removal of residual waste, backfill of impoundment. Includes removal of embankment (or fill to bank grade), and shaping. Reception pit structure - After the removal of manure using Nutrient Management or Waste Utilization. Removal of residual waste, removal of materials, fill hole in with sand. Stabilization of site. Reception pit 10x10x6, and decommission of outlet pipe.	\$867
Waste Recycling	633	Using agricultural wastes such as manure and wastewater or other organic	Management of Anaerobic Digester to utilize waste in an energy efficient manner. Based on a controlled	\$2,114.84

		residues.	temperature digester. 800 AU total on farm with raised replacements. Liquid manure system.	
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Dry Stacking Facility without roof Typical is based on 50 A.U. beef cow operation with bedding 50' X70' with 4 ft walls, stacked 6ft.	\$22,757
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Excavated and Lined Liquid Storage pit (no roof). Volume based on AWM output report, Structural Volume. Typical is a LLDPE Membrane liner 250'x150' with 26,000 sq ft liner. 12' deep with geocomposite drainage/venting system on side slopes and bottom. Includes a concrete bottom, concrete ramp, 1:1 push off, 100 ft long with safety cable.	\$173,394
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Prefabricated or cast in place reinforced concrete panel/tank under barn, based on AWM output report, Structural Volume. Typical is ADL tank with slats that is 40'x120'x10' deep built 8 ft into the ground. Structural Volume is 48,000 cu ft. Includes concrete slats on top of structure and columns for slat support.	\$173,656
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Relining of existing excavated storage pond. Volume based on AWM output report, Structural Volume. Typical is relining with 5" concrete on side slopes. Typical size is 100' x 200' x 10' top dimensions. Assuming existing concrete bottom and concrete ramp.	\$68,565
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Above Ground Fabricated Liquid Manure Storage Structure. Volume based on AWM output report, Structural Volume. Typical is a Slurrystore or large concrete tank. Based on 100,000 cu.ft. storage (81' dia. x 19' high). Concrete foundation and steel walls are included.	\$225,164
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Convey manure to storage. 8 ft x 20 ft x 8 ft reinforced concrete tank with 100 feet of 30" smooth walled pipe.	\$18,632.52
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Convey manure to storage. 14 ft x 14 ft x 8 ft reinforced tank with centrifugal pump, 100 feet of 8" PVC discharge pipe.	\$49,221.88
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Conveyor belt system consisting of 3 conveyors. 50 ft collection conveyor to a 10 ft x 10 ft lean-to with a concrete floor and metal walls on the outside of the animal housing building to a 100 ft long vertical lift	\$21,930

			conveyor that drops to a 100 ft long plow off conveyor in the manure storage facility for stacking of litter.	
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Trapezoid channel, plain concrete 5 in. thick with 4 in. compacted sand. 100 ft long, 8 ft bottom, 5" depth. 10H:1V side slope so can cross with vehicle.	\$6,185.46
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	20 ft x 20 ft x 3ft walls ramped concrete settling basin with 2 ft reinforced divider wall in center of basin. Runoff fills one cell and then flows around end into second cell of settling basin. 6" PVC pipe 50 ft. from second settling basin cell to 2000 gallon septic tank/pump chamber with sewage pump set with floats and an alarm panel. Runoff is pumped into a 2" discharge pipe 150 ft. to the waste storage facility. Detention basin is constructed adjacent to second cell of settling basin with a 4 ft wide weir for outflow. The detention basin is concrete lined circular in shape 90 ft diameter, 2 ft deep (12,723 cu.ft capacity) with a 36" catch basin to a 6" PVC pipe 300 ft. gravity flow to 2000 gallon septic tank/pump chamber.	\$36,729.90
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	20 ft x 20 ft x 3 ft walls ramped concrete settling basin with 2 ft reinforced divider wall in center of basin. Runoff fills one cell and then flows around the end into second cell of settling basin. A 12" smooth walled pipe from second settling basin cell to the waste storage facility 100 ft long. Detention basin is constructed adjacent to second cell of settling basin with a 4 ft wide weir for outflow. The detention basin is concrete lined circular in shape, 90 ft diameter, 2 ft deep (12,723 cu.ft. capacity) with a 36" catch basin to a 10" smooth walled pipe to the waste storage facility, 150 ft long.	\$31,834.40
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Milk house plate cooler waste water reuse system. System includes pipeline and pump from plate cooler to water holding tank. Variable speed pump with plate cooler with 900 gallons per hour capacity.	\$3,071.90

Appendix 2: NRCS Conservation Practice 606

The installation of drainage tiles beneath the surface of land is a practice that dates back to ancient times. In Michigan, drainage tiles were used starting in the 1800s to drain prairies and wetlands for agricultural use. Today, they're called "subsurface drains" by the NRCS and routinely installed in fields intended for the application of CAFO wastes.

Subsurface drainage tiles are described by the Michigan Department of Environmental Quality as a "conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water." Drainage water seeps into the tiles through the ground or is collected through tile risers and other inlets on the field surface. These devices capture liquefied CAFO waste, rainwater, snowmelt and other water applied to fields, delivering these liquids to surface waters. Natural factors such as earthworm burrows and other macropores can speed up the time it takes for the waste to make its way through the soil to the drains,¹ but over-application of wastes, rainfall and snowmelt can inundate nearby waterways with the salts and contaminants spread on the fields in CAFO wastes.

Sustainable livestock operations may use subsurface drains, but organic practices for soil fertility and crop nutrient management are designed to exclude contaminants and avoid the over-application of these nutrients, thus avoiding the problem of discharging contaminants to subsurface drains.

NRCS Conservation Practice ²		National Organic Program Rule ³
Practice/Rule	Subsurface Drain (606)	Soil fertility and crop nutrient management standard—Soil Condition and Water Quality (205.203)
Description	A conduit installed beneath the ground surface to collect and/or convey excess water.	The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil or water by plant nutrients, pathogenic organisms, heavy metals or residues of prohibited substances.

¹ From Soil Science Society of America Journal, 64:2103–2109 (2000): "Potential for Earthworm Burrows to Transmit Injected Animal Wastes to Tile Drains" by Martin J. Schipitalo and Frank Gibbs, and "Not Just Blowing Smoke," an article by Dann Bolinger of MSU Extension Service at http://www.msue.msu.edu/objects/content_revision/download.cfm/item_id.309904/workspace_id.212414/Tile%20line%20smoke%20in%20july%20show%20guide.pdf/

² From USDA NRCS Michigan Technical Guide, Section 4, Statewide Subsurface Drain 606-1

³ From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

Purpose	<p>This practice may be applied as part of a resource management system to achieve one or more of the following purposes:</p> <ul style="list-style-type: none"> - Remove or distribute excessive soil water. - Remove salts and other contaminants from the soil profile. 	<p>Implement a nutrient management system that considers realistic yield goal, nutrient budget, mineralization rates, and soil biological activity when developing conservation alternatives to reduce impacts on water quality.</p>
Resource Concerns	<p>Soil Erosion—Ephemeral Gully⁴</p> <p>A shallow channel cut by concentrated runoff where soil loosened by mechanical operations is removed, generally between tillage operations.⁵</p>	<p>Contaminants</p> <ul style="list-style-type: none"> • Animal waste from Organics N-P-K • Commercial Fertilizer N-P-K • Excessive Nutrients and Organics in Groundwater • Excessive Nutrients and Organics in Surface Water • Excessive Salinity in Groundwater • Excessive Salinity in Surface Water • Excessive Suspended Sediment and Turbidity in Surface Water • Harmful Levels of Pathogens in Groundwater • Harmful Levels of Pathogens in Surface Water

⁴ EQIP Practice List Resource Concerns, page 4, #2

<http://www.ia.nrcs.usda.gov/programs/eqip/2013EQIP/Carroll13WebPracticeList.pdf>

⁵ Definition of Ephemeral Gully from: http://efotg.sc.egov.usda.gov/references/public/MO/gully-ephemeral_erosion.pdf

Appendix 3: NRCS Conservation Practice 362

One of the most important issues a CAFO operator or sustainable farmer must deal with is storm runoff and erosion, which can carry pollutants and sediment into nearby waterways. NRCS Practice 362 offers funding to build structures that divert water away from fields and unstable areas where erosion might happen and to prevent overflow in high-pollutant areas like feedlots. In other words, with Practice 362 as with so many other NRCS conservation practices, CAFOs get money to clean up the mess they have created, and they get a lot of it, because of the scale of these operations. There is a great deal of diversion that needs to take place for the huge amounts of waste CAFOs generate, so the subsidy of \$4.54 to \$26.13 per foot adds up fast.

Meanwhile, organic producers are held to a far more stringent and complex standard when addressing runoff and erosion. National Organic Program Rule 205.203 requires producers to address the underlying environmental structure of the land and build a system of practices such as tillage and cultivation that maintain and improve the physical, chemical and biological condition of the soil and minimize erosion. This contrasts greatly with NRCS Practice 362, which doesn't require the operator to address underlying issues of high concentrations of pollutants at the CAFO or to address erosion in any proactive manner.

NRCS Conservation Practice ¹		National Organic Program Rule ²
Practice/Rule	Diversion (362)	Soil fertility and crop nutrient management standard (205.203)
Description	A channel constructed across the slope generally with a supporting ridge on the lower side built with a combination of earth dike and channel or concrete curb and channel .	The producer must select and implement tillage and cultivation practices that maintain or improve the physical chemical and biological condition of soil and minimize soil erosion.
Purpose	Diversions are effective in intercepting storm runoff and directing it away from fields susceptible to erosion, preventing water from flowing over areas where high concentrations of pollutants are present (such as feedlots), and diverting runoff water away from gullies to a stable outlet.	Develop a system of conservation practices that address all forms of erosion to meet the minimum treatment level as described in the Field Office Technical Guide. Utilize NRCS assessment tools to evaluate current and proposed alternatives.
Subsidy	From \$4.54 to 26.13 per foot depending on construction type. Cost-share in Michigan is up to 75%. ³	30 NRCS practices are suggested for consideration, including Practice 362 (Diversion).

¹ From the USDA Field Office Technical Guide, Typical Practice Cost, for Michigan:

http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

² From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

³ From USDA/NRCS Fiscal 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

Limitations	Total cost share and incentive payments are limited to \$300,000 per individual over a six-year period, regardless of the number of farms or contracts. ⁴	Organic provision in FB targets organic producers and transitioning producers with assistance limited to \$20,000 per year and \$80,000 during six- year period. ⁵
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⁴ From NRCS website, information about EQIP programs: <http://www.mi.nrcs.usda.gov/programs/eqip.html>

⁵ Ibid.

Appendix 4: NRCS Conservation Practice 366

Anaerobic Digesters (Practice 366) demonstrate the unsustainability of the CAFO system and the unfairness of the current subsidy system. Digesters, which treat animal waste to capture biogas for energy production, manage odors, reduce greenhouse gas emissions and pathogens, are only needed by operations that generate and store huge quantities of animal waste as CAFOs do. A single digester can cost as much as \$284,000 per unit, making it the single biggest ticket item on the NRCS subsidy list.

The industry has promoted digesters as a way of “greening” CAFOs, a way to turn the problem into an environmental solution by turning excessive greenhouse gas emissions into energy that can be used by the farm and sold back to the utilities. The truth is, however, that digesters use extreme amounts of energy to heat the waste to 100 degrees, and they don’t actually eliminate the waste or the need for land application.¹

In reality, the emissions problem wouldn’t exist in the first place if the CAFO system was a sustainable one, which it is not. If these operations didn’t generate more waste than can be handled through natural composting, which is the process that takes place on a sustainable farm, then there would be no emissions issue or need for an expensive system to deal with them. However, what *would* exist is more money in subsidies for practices relevant to sustainable farmers.

NRCS Conservation Practice ²		National Organic Program Rule ³
Practice/Rule	Anaerobic Digester – controlled temperature	Not applicable because sustainable farms with appropriate numbers of animals for the amount of land don’t need artificial means of disposing of waste or dealing with emissions.
Description	A component of a waste management system that provides biological treatment in the absence of oxygen.	N/A
Purpose	Designed to treat manure and other by-products of animal agricultural operations for one or more of the following reasons: capture biogas for energy production, manage odors, reduce the net effect of greenhouse gas emissions and reduce pathogens.	N/A

¹ From MSU Extension website: <http://www.extension.org/pages/30309/pathogen-reduction-in-anaerobic-digestion-of-manure>, and land application reference from <http://www.nrec.org/pubs/dairy%20waste%20handbook.pdf> (page 52, Final Disposal)

² From NPDES Permit Writers’ Manual for CAFOs: Appendix K, NRCS Conservation Practice Standards

³ From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

Subsidy	\$284,000 per digester Cost-share in Michigan is up to 75%. ⁴	N/A
Limitations	Total cost share and incentive payments are limited to \$300,000 per individual over a six-year period, regardless of the number of farms or contracts. ⁵	N/A

⁴ From USDA/NRCS Fiscal 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

⁵ From NRCS website, information about EQIP programs: <http://www.mi.nrcs.usda.gov/programs/eqip.html>

Appendix 5: NRCS Conservation Practice 590

Beneath the subsidy system constructed to support and extend the life of CAFOs despite their inherent unsustainability lies a web of issues that an examination of NRCS Conservation Practice 590 exposes. This practice essentially allows for land application of CAFO waste at rates based on “soil tests, realistic yield goals and management capabilities.” This might sound reasonable if, indeed, soil tests at animal factories are done regularly and CAFO operators realistically estimate their yields, neither of which is often the case.

The problem begins with the lack of agency follow-up to the Comprehensive Nutrient Management Plan (CNMP) developed for each CAFO to ensure it is appropriately managing waste application to the land. As a result, CAFOs with out-of-date soil tests still receive federal subsidies (a current soil test is not required for these operations to get their permits renewed every five years). Yield goals can be manipulated to justify higher waste application amounts. Meanwhile, organic farmers must develop a system of cultivation and tillage practices to maintain or improve the soil and minimize erosion that would never allow land application of something with the toxicity level or amount of CAFO waste.

	NRCS Conservation Practice ¹	National Organic Program Rule ²
Practice/Rule	Nutrient Management Land Application (590)	Soil fertility and crop nutrient management standard—Soil Erosion (205.203)
Description	Managing the amount, source, placement, form and timing of the application of nutrients and soil amendments.	The producer must select and implement tillage and cultivation practices that maintain or improve the physical chemical and biological condition of soil and minimize soil erosion.
Purpose	The standard states that nutrient application rates are to be established considering current soil tests, realistic yield goals and management capabilities. In cases where manure is the source of applied nutrients, the rate also shall be based on an analysis of the nutrient value of the manure, NRCS book values, or historical documented records. ³	Develop a system of conservation practices that address all forms of erosion to meet the minimum treatment level as described in the Field Office Technical Guide. Utilize NRCS assessment tools to evaluate current and proposed alternatives.
Subsidy	From \$8.01 to 40.85 per acre and \$747.70 for nitrate analysis for fields without manure applications. Cost-share in Michigan is up to 75%. ⁴	30 NRCS practices are suggested for consideration, but not Practice 590.

¹ From the USDA Field Office Technical Guide Typical Practice Cost for Michigan:

http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

² From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

³ From NPDES Permit Writers' Manual for CAFOs: Appendix K, NRCS Conservation Practice Standards

⁴ From USDA/NRCS Fiscal 2012 EQIP Guidance Document.

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

Limitations	Total cost share and incentive payments are limited to \$300,000 per individual over a six-year period, regardless of the number of farms or contracts. ⁵	Organic provision in Farm Bill targets organic producers and transitioning producers with assistance limited to \$20,000 per year and \$80,000 during six-year period. ⁵
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⁵ From NRCS website, information about EQIP programs: <http://www.nri.nrcs.usda.gov/programs/eqip.html>

Appendix 6: NRCS Conservation Practice 472

NRCS Conservation Practice 472 demonstrates the inequity of the subsidy system beyond the fact that it gives out more money to support practices unique to CAFOs. In this case, the NRCS practice demonstrates the vast difference in standards to which CAFOs and organic farms are held. Practice 472 offers funding to build fences and other barriers to control access to an area (keep animals, people or vehicles out to improve quality of natural resources and/or minimize human health concerns). There are no restrictions on the type of material that can be used or where the barriers need to be placed.

In direct contrast, organic farms must concern themselves with certain requirements if they are to erect barriers that meet organic standards. These include using fencing made only of non-treated wood posts and setting aside some amount of land as a buffer strip between the organic farm and any neighboring non-organic farm to avoid GMO contamination, thus losing that land for any crop production.

NRCS Conservation Practice ¹		National Organic Program Rule ²
Practice/Rule	Access Control Production Area (472)	Land Requirements (Organic Rule 205.202)
Description	Excluding animals, people or vehicles from an area.	Have distinct, defined boundaries and buffer zones such as runoff diversions to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management.
Purpose	Barriers can be used to prevent, restrict or control access to an area to maintain or improve the quantity and quality of natural resources or to minimize liability and human health concerns. Barriers consist of natural or artificial structures such as logs, vegetation, earth fill, boulders, fences, gates, electronic and sonic devices and signs. In those cases where a water body is present in the feedlot area, the NMP should address the installation and maintenance of a fence or similar barrier to prevent animals from entering the water. ³	Establish physical barriers and increase distances between organic and non-organic crops to protect against airborne or surface contamination by prohibited substances or other non-organic operations. Fencing materials must meet National Organic Program standards (non-treated wood post) ⁴

¹ From the USDA Field Office Technical Guide Typical Practice Cost for Michigan:

http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

² From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

³ From NPDES Permit Writers' Manual for CAFOs: Appendix K, NRCS Conservation Practice Standards

⁴ From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix, page 5, Column 6: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

Subsidy	\$2.32 per acre Cost-share in Michigan is up to 75%. ⁵	No specific NRCS practice and 472 is not among the practices recommended to organic farmers to consider applying for.
Limitations	Total cost share and incentive payments are limited to \$300,000 per individual over a six-year period, regardless of the number of farms or contracts. ⁶	Organic provision in FB targets organic producers and transitioning producers with assistance limited to \$20,000 per year and \$80,000 during six- year period. ⁷

⁵ From USDA/NRCS Fiscal 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

⁶ From NRCS website, information about EQIP programs: <http://www.mj.nrcs.usda.gov/programs/eqip.html>

⁷ Ibid.

Appendix 7: NRCS Conservation Practice 632

The difference between practices that are acceptable and funded by the NRCS for CAFO facilities versus those of organic farms is stunning. Not only are NRCS subsidies heavily weighted in favor of the CAFO approach, but in some cases, they actually contradict the rationale for the funding of organic operations.

Consider NRCS Conservation Practice 632 versus the National Organic Program (NOP) Rules 205.237 and 205.238. Practice 632 refers to a solid/liquid waste separation facility “used to partition solids, liquids and their associated nutrients as part of a conservation management system.” It costs about \$90,000 per unit and is not a structure a sustainable, organic operation would need because the practice is not consistent with organic or sustainable principles.. In addition, Practice 632 allows for the use of partly digested feed separated from the liquid waste stream to be used in feed or for bedding, practices that may increase the spread of disease and parasites

In direct contrast to this CAFO practice, NOP Rules 205.237 and 205.238, which cover the feeding and housing of animals on organic farms, require appropriate housing, pasture and sanitation *to minimize the occurrence and spread of diseases and parasites*. In addition, Rule 205.237 has no counterpart on the list of NRCS Conservation Practices so it is ineligible for subsidies, and there is no specific NRCS practice created to help farmers comply with Rule 205.238. Instead, the farmer is given a list of 15 practices that may be relevant, none of which amounts to anything close to a cost of \$90,000 per unit.

NRCS Conservation Practice ¹		National Organic Program Rule ²
Practice/Rule	Solid/Liquid Waste Separation Facility (632)	Livestock Feed (205.237) Livestock health care practice standard (205.238)
Feed	Partly digested feed separated from liquid waste stream can be used as a feed supplement	Feed must be organically produced
Bedding/ Sanitation	Partly digested feed can be used as bedding for animals and liquids can be recycled for flush water, which may increase spread of disease and parasites.	Appropriate housing, pasture conditions and sanitation practices <i>to minimize occurrence and spread of diseases and parasites</i> and allow for exercise, freedom of movement and reduction of stress appropriate to species.
Subsidy	\$89,625.56 per unit Cost-share in Michigan is up to 75%. ³	205.237 —No applicable NRCS practice 205.238 —Of 15 practices suggested by NRCS, none come close individually or jointly to the cost of a separation facility.

¹ From the USDA Field Office Technical Guide, Typical Practice Cost, for Michigan:

http://efotg.sc.egov.usda.gov/references/public/MI/Statewide_Typical_Practice_Cost_FOTG2012.pdf

² From 2012 EQIP Organic Initiative Practice List and National Organic Program Rules Correlation Matrix:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045638.pdf

³ From USDA/NRCS Fiscal 2012 EQIP Guidance Document:

<ftp://ftp-fc.sc.egov.usda.gov/MI/programs/EQIP/2012/FY%202012%20EQIP%20Guidance%20Document.pdf>

Limitations	Total cost share and incentive payments are limited to \$300,000 per individual over a six-year period, regardless of the number of farms or contracts. ⁴	Organic provision in FB targets organic producers and transitioning producers with assistance limited to \$20,000 per year and \$80,000 during six- year period. ⁵
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⁴ From NRCS Website information about EQIP programs: <http://www.mi.nrcs.usda.gov/programs/eqip.html>

⁵ Ibid.

Appendix 8: Maple Row Dairy Case Study

Maple Row Dairy is a study in contradictions and demonstrates the problem with spending millions of dollars of taxpayer money each year in order to mitigate or improve a fundamentally flawed, polluting system.

In 2004 and 2005, Maple Row Dairy of Saranac received \$261,123 in federal Environmental Quality Incentives Program (EQIP) subsidies,¹ one of the highest amounts collected by a Michigan CAFO.² Presumably, the purpose of the EQIP funding was “to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land...,” as the program is described on the USDA Natural Resources Conservation Service website.³

Yet, despite this infusion of federal funding for conservation purposes, four years later Maple Row Dairy discharged waste into waters of the State on two separate occasions. As a result, owners James and John Hardy received a civil fine of \$25,000 from the Michigan Department of Environmental Quality in 2008.⁴ In addition, in 2009 they received notice of three violations of their CAFO permit, including another unpermitted discharge.⁵ All of these funds, fines and violations went to a company name (Maple Row Dairy) that was officially dissolved on Oct. 23, 2002.⁶

Things get more curious upon close inspection of the 2012 permit renewal application for Maple Row Dairy, which reveals discrepancies in the numbers of animals and acres reported. The application states there are 3,350 animals at the facility, a figure that does not match the 34.7 million gallons of manure it claims to produce annually.⁷ At an average of 17.7 gallons of manure per animal per day, 3,350 animals should produce 21,642,675 gallons, raising the question of whether or not Maple Row Dairy has more animals than stated or is taking waste from somewhere else.

In addition, the permit application claims the operation has 4,141 acres,⁸ but in the Crops and Yields document,⁹ it states the operation has 3,675 acres. Reporting higher acreage in the permit would make

¹ From Environmental Working Group Farm Subsidy Database:

<http://farm.ewg.org/persondetail.php?custnumber=A03667674&summlevel=detailbyyear>

² The total farm subsidies—not just EQIP-- awarded to Maple Row between 1995-2011 is nearly \$3 million.

³ USDA NRCS website: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

⁴ From State of Michigan website. http://www.michigan.gov/documents/ag/Hardy_James_04-15-09_2009-0013243_276154_7.pdf

⁵ From FOIA request for statewide CAFO violations from Michigan Department of Environmental Quality—document titled Statewide CAFO Violations received in email dated 2/9/11 from Deana Mercs, Secretary of Water Resources Division of Department of Natural Resources and Environment.

⁶ http://www.dleg.state.mi.us/bcs_corp/dt_llc.asp?id_nbr=B07923&name_entity=MAPLE%20ROW%20DAIRY,%20L.L.C.

⁷ From p. 6 of Maple Row Dairy's Wastewater Discharge Permit application publicly posted by Michigan Department of Environmental Quality from 3/7/12 through 4/6/12 on the agency website at <http://www.deq.state.mi.us/owis/Page/main/Home.aspx>

⁸ From p. 6 of Maple Row Dairy's Wastewater Discharge Permit application publicly posted by Michigan Department of Environmental Quality from 3/7/12 through 4/6/12 on the agency website at <http://www.deq.state.mi.us/owis/Page/main/Home.aspx>

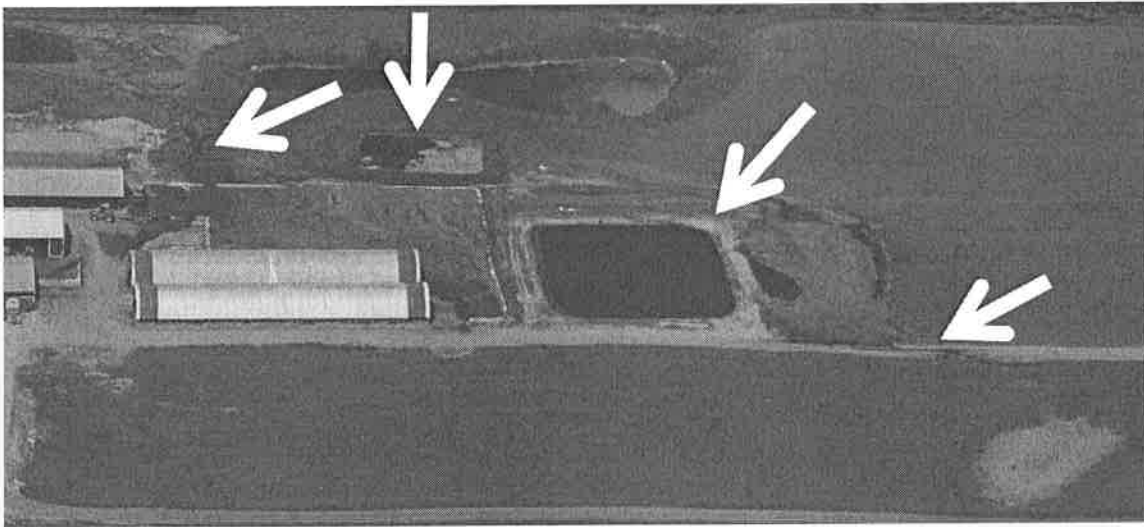
Maple Row Dairy eligible to land-apply more manure, but reporting lower crop acreage in Crops and Yields would give the land better yield numbers, which could then be used to justify a higher waste application per acre.

⁹ From p. 7 of the Crops and Yields chart for Maple Row Dairy's Comprehensive Nutrient Management Plan publicly posted by Michigan Department of Environmental Quality from 3/7/12 through 4/6/12 on the agency website at <http://www.deq.state.mi.us/owis/Page/main/Home.aspx>

Appendix 9: Terrehaven CAFO Case Study

In 2005, James A. Bleecker received approval for \$81,650 in EQIP subsidies (subject to 75% cost share in Michigan) to install a lined waste lagoon and a storage facility constructed of cement blocks at his dairy CAFO in Adrian. The USDA contract he signed indicated the reason for the EQIP subsidy was to address the “resource concern” of soil quality.

Six years later, aerial photographs of Terrehaven¹ show soil quality impairment due to waste overflow and runoff from the lagoon and block storage facility funded by the EQIP subsidies to prevent this very problem. A block storage facility is intended for stacking of dry manure only (NRCS Practice 313), but it appears there is liquid runoff flowing from it in the picture below (first arrow from left). This is groundwater discharge without a permit that may make its way into the underground drainage system known as the Hervey Tile.²



The second arrow from left indicates another waste storage area that has reached its capacity, and the third arrow shows a waste storage area deemed a lagoon in the original site plan. This lagoon also appears to have reached capacity and is beginning to overflow. The fourth arrow (far right) shows runoff from a large pile of waste across the driveway into the field and exhibiting signs consistent with the burning that occurs when waste inundates a green field (pale area in bottom right corner of photo). This would discharge to the underground drainage system called the Baker Tile (and into waters of the State).³

All of these issues violate the rules of the CAFO permit issued to Terrehaven by the Michigan Department of Environmental Quality, which states:

1) *Conservation Practices*--The permittee shall maintain specific conservation practices near or at production areas, land application areas, and heavy use areas within pastures associated with the CAFO that are sufficient to control the runoff of pollutants to surface waters of the state in quantities that may cause or contribute to a violation of water quality standards. These practices shall be consistent with NRCS Conservation Practices and in compliance with the

¹ Photo taken June 4, 2011 by Lighthawk and Environmentally Concerned Citizens of South Central Michigan.

² <http://www.lenaweedrain.com/> Lenawee County Drain Map for Adrian Township

³ Ibid.

requirements of this permit. The permittee shall include within the CNMP a list of conservation practices used near or at production areas and land application areas. This list does not need to include temporary practices or other practices already required by this permit.⁴

3. *Standards, Specifications and Practices*--The published standards, specifications, and practices referenced in this permit are those which are in effect upon the effective date of this permit, unless otherwise provided by law. NRCS Conservation Practice Standards referred to in this permit are currently contained in Section IV, Practice Standards and Specifications, of the Michigan NRCS Field Office Technical Guide.⁵

⁴ From p. 8 of CAFO permit issued to Terrehaven: http://www.michigan.gov/documents/deq/wb-npdes-cafo-generalpermit-MIG019000-2010_316373_7.pdf

⁵ Ibid. From p. 17 of the CAFO permit issued to Terrehaven.

Appendix 10: Bakerlads Farms Case Study

Most Michigan CAFOs are required to obtain a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit because of their size and design. However, smaller operations may be required by the Michigan Department of Environmental Quality (DEQ) to come under NPDES permits for CAFOs after racking up substantial environmental violations.¹ One such operation, Bakerlads Farms of Clayton, a dairy that milks 425 Holsteins, was required in 2012 to obtain an NPDES permit² after many years of complaints about water and air pollution³, and environmental violations cited by Michigan DEQ starting in 2002.

Bakerlads Farms has faced years of environmental problems despite receiving \$1,163,939 in Farm Bill subsidies between 1995 and 2011⁴ and implementing many NRCS-approved practices (including conservation tillage, crop sequencing, cover crops, eight acres of grass waterways, 29 water and sediment control basins, eight erosion control structures, and four miles of filter strips). Bakerlads Farms has participated for 16 years in the Center for Excellence, which applies research on their farm through partnerships with local NRCS and Conservation District offices.⁵

In 2004, the farm agreed to install an experimental constructed wetland/sub-irrigation project intended to handle runoff from the livestock barns and production area as well as the milk house wastes.⁶ Funding for the project came in part from the Michigan NRCS as well as federal, state and academic sources.⁷ But a 2007 study⁸ of surface water and well water around the “novel livestock reservoir wetland sub-irrigation system” conducted by the US Geological Services with the Lenawee County Conservation District found extraordinarily high levels of pathogens in almost three-quarters of the samples. Even the upstream testing site, which was located downstream from additional Bakerlads Farms fields, exceeded the maximum standards for safe body contact levels of e-coli for all but one of the samples taken over the growing season.

Despite the extensive list of environmental notice letters and citations from the Michigan DEQ, Bakerlads Farms is also verified under the voluntary Michigan Agricultural Environmental Assurance Program (MAEAP)⁹, which is described as “an innovative, proactive, and voluntary program that helps farms of all sizes and all commodities voluntarily prevent or minimize agricultural pollution risks” that includes state

¹ Federal government definition of a Medium CAFO: http://www.epa.gov/npdes/pubs/sector_table.pdf

² MDEQ NPDES Permit # MI0059009, issued May 11, 2012

³ Environmentally Concerned Citizens of South Central Michigan website, News, <http://www.nocafos.org/news.htm>

⁴ Environmental Working Group Farm Subsidy Database
<http://farm.ewg.org/persondetail.php?custnumber=A03661458>

⁵ Michigan Farm Bureau, State Annual Meeting, <http://www.michfb.com/annual/index/96/2635>

⁶ Livestock Reservoir Wetland Sub-Irrigation System
<http://www.lenaweeconservationdistrict.org/centerforexcellence/LRWSIS%20report.pdf>

⁷ NCERA207: Drainage design and management practices to improve water quality, Annual/Termination Reports (SAES-422) <http://nimss.umd.edu/homepages/saes.cfm?trackID=5434>

⁸ Fecal-Indicator Bacteria and Escherichia coli Pathogen Data Collected Near a Novel Sub-Irrigation Water-Treatment System in Lenawee County, Michigan, June–November 2007, Duris and Beeler, USGS 2008-1025, <http://pubs.usgs.gov/of/2008/1025/>

⁹ <http://www.macap.org/>

and federal agencies among its partners. As explained by MAEAP, “with confidentiality guaranteed by law, MAEAP provides a structure under which Michigan farmers can be assured they are effectively following all current Right to Farm Generally Accepted Agricultural Management Practices (GAAMPs) and are working to comply with state and federal environmental laws specific to each system of the program.”¹⁰ Verification of compliance with GAAMPs provides agricultural operations with protection from nuisance lawsuits, even though air pollution complaints in particular may continue.

In 2012, less than a year after being required to obtain an NPDES permit, Bakerlads Farms received the Michigan Farm Bureau’s Ecology Leadership Award, which recognizes “an individual, farm or partnership whose natural resources stewardship practices contribute to the protection of the environment, while maintaining or enhancing productivity and profitability.”¹¹ Despite the accolades, complaints and photographic documentation of water discharges caused by Bakerlads Farms have been collected as recently as November 2012 and submitted to the Michigan DEQ.



The above photo shows stockpiling of slurry waste near Bakerlads within 500 feet of a water well and a drainage tile riser pipe that drains surface water into the sub-irrigation system below. This also took place before a predicted rainfall within 800 feet of the south branch of the River Raisin, which is drinking water downstream for the communities of Deerfield and Blissfield. (11/8/12)

¹⁰ http://www.maeap.org/about/history_of_maeap

¹¹ Michigan Farm Bureau, State Annual Meeting, <http://www.michfb.com/annual/index/96/2635>



Water samples were taken on 11/13/12 after the rainfall that followed the waste application in the previous picture. Readings taken for Biochemical Oxygen Demand (BOD) were more than double the limit for discharges allowed for human sewage treatment plants¹². BOD can indicate the presence of silage leachate and milk wastes by measuring the amount of oxygen taken up by microorganisms that are decomposing the waste. When BOD levels are high, dissolved oxygen levels decrease because the oxygen dissolved in the water is being consumed by the bacteria (see Michigan DEQ water quality parameters and standards).¹³

Bakerlads Farms Environmental Violations History:¹⁴

November 2002 –Bakerlads Dairy on Cadmus Rd discharges manure through field tiles to South Branch of the River Raisin. Dissolved Oxygen level is 1.9 mg/L (3 mg/L or less can be fatal to aquatic species). DEQ Notice Letter (Dec. 4, 2002)

February 2005 - Bakerlads Farms is cited for manure discharge to Dowling County Drain leading to South Branch of the River Raisin following application to frozen ground. DEQ reports "manure laden runoff water" that was "severely contaminated." DEQ Notice Letter (March 21, 2005)

March 2008 - Bakerlads Farms cited for illegal discharge of agricultural waste to South Branch of the River Raisin after application of manure on frozen, snow-covered ground. DEQ notes "the runoff was brown in color, had a distinct manure odor, and manure solids were observed floating on the water." DEQ Notice Letter (March 27, 2008)

¹² The samples had BOD readings of 89 mg/l, more than double the limit for human sewage treat plants of 30 mg/l.

¹³ Water Quality Standards, Michigan Department of Environmental Quality Water Bureau,
http://www.michigan.gov/documents/deq/wb-npdes-BiochemicalOxygenDemand_247231_7.pdf

¹⁴ Environmentally Concerned Citizens of South Central Michigan website, News,
<http://www.nocafos.org/news.htm>

March 2010 - Bakerlads Farm cited for manure discharge to a tributary of the South Branch of the River Raisin following land application of liquid manure. Michigan Department of Natural Resources and Environment (DNRE--formerly DEQ) notes, "The samples collected during the inspection indicate that the runoff water was severely contaminated and resulted in violations of water quality standards downstream." Because of this discharge, Bakerlads Farm is required to apply for an NPDES CAFO permit. DNRE Notice Letter (April 2, 2010)

ADDENDUM

9.12.13 Update to *Restoring the Balance to Michigan's Farming Landscape*

The Less=More Coalition released *Restoring the Balance to Michigan's Farming Landscape*, a report on the relationship between Farm Bill subsidies and factory farm pollution in Michigan, on February 15, 2013 (available to download at <http://tinyurl.com/L-Mreport>). At the time of the release, the 2012 Farm Bill had been extended through 2013. Since then, both the US Senate and House have passed drastically different versions of a new Farm Bill. Committee negotiations are underway to reconcile the two versions for a final vote.

Restoring the Balance explores how federal tax dollars create an uneven playing field for sustainable livestock operations in Michigan by overwhelmingly favoring grants of subsidies to polluting Concentrated Animal Feeding Operations or CAFOs. In particular, it examines how one Farm Bill program, the Environmental Quality Incentive Program (EQIP), encourages unsustainable agricultural practices that threaten public health and the environment, while putting Michigan's independent and local producers at a severe competitive disadvantage. It also highlights opportunities to reverse this inequity through the US Department of Agriculture Natural Resources Conservation Service State Conservationist's authority to change priorities set for EQIP in Michigan and recommends measures of accountability in the application process to ensure funds are awarded to environmentally responsible farmers.

The original Less=More Coalition report included three case studies of CAFOs in Michigan. This addendum adds a fourth for Mibelloon Dairy, LLC, and its four related limited liability corporations that have thrived on the unwitting largesse of state and taxpayers since 2001. The Mibelloon facilities are located in Gratiot and Midland Counties, which have a total of 24 CAFOs that received \$11,243,026 in subsidies from 1995-2012. Since 1996, 14 of these Gratiot and Midland County facilities have been cited for environmental violations, with one receiving fines and penalties of \$45,344. Yet from 1995 to 2011, owners and operators of these facilities in violation received \$4,793,488 in taxpayer-funded subsidies.

Appendix 11: Mibelloon Case Study

Mibelloon Dairy, LLC, and related limited liability corporations illustrate how taxpayer subsidies enable industrial livestock operations to survive and even thrive in the face of numerous violations of state and federal environmental law. In the dozen years since Leon and Marleen Van Loon and their four children moved to the United States from Belgium, founding a 500-head dairy farm in Gratiot County¹, Van Loon family members have registered five different business entities² within a 10-mile radius of each other. When the latest affiliated facility, Wheeler Dairy³, is built, Mibelloon-affiliated dairies will contain a total of 8,500 animals.

As one of the early Vreba Hoff Dairy Development operations in Michigan⁴, Mibelloon Dairy, LLC, was registered as a business in 2001 by a law firm in Coldwater, and the following year Leonardus F.M. Van Loon of St. Louis, MI became the registered agent. From 2001 to 2012, the Mibelloon-related operations benefited dramatically from the generosity of state and federal taxpayers, with \$744,941 in subsidies under the federal Farm Bill and tax-subsidized state and federal loans of \$5 million. Yet in the same time period, the original factory farm was also being cited for numerous environmental violations and discharges that resulted in fines and costs of \$45,344⁵.

In 2001, a \$2,000,000 US Small Business Administration loan through the Michigan Certified Development Corporation was approved to allow Mibelloon Dairy, LLC, to expand their “small business” from 1,300 to 3,500 cows. The loan program, SBA 504, required only a 15 percent equity injection of cash to be invested in the project by Van Loon and provided a below-market interest rate for 20 years towards the \$7,820,000 project.⁶ Between 2001-2012, Mibelloon-related operations also benefited from nearly \$745,000 in subsidies under the Farm Bill: Mibelloon Dairy: \$460,959⁷; Van Loon Farms: \$240,108⁸; and Redstone Dairy: \$43,874⁹. Of the Farm Bill subsidies to Mibelloon Dairy, \$97,500 came out of the EQIP program highlighted in the original *Restoring the Balance to Michigan's Farming Landscape* report issued in February 2013.

A USEPA Administrative Order was issued in 2004 after Mibelloon Dairy was found to have failed to apply for a National Pollutant Discharge Elimination System (NPDES) General CAFO permit. As part of the 2004 order, Mibelloon Dairy was cited for failure to properly collect and contain silage leachate and failure to revise its Comprehensive Nutrient Management Plan to reflect the expansion of its herd.¹⁰ On January 6, 2005, Mibelloon Dairy and its resident agent, Leonardus F.M. Van Loon, were issued a certificate of coverage under the Michigan NPDES General CAFO permit. However, between May 2006 and December 2007, Mibelloon Dairy, LLC, received four Notice Letters from the Michigan Department of Environmental Quality for five separate instances of violations of their permit and water quality laws, including illegal discharges of silage leachate and manure, and failure to properly report a significant

¹ http://docs.google.com/file/d/0B2oQWdaS_UuHT3NaZ0w3YzR4ZTQ/edit?usp=sharing

² http://docs.google.com/file/d/0B2oQWdaS_UuHY0xMZxNtRkxqa2s/edit?usp=sharing

³ Wheeler Dairy received a NPDES permit from the Michigan Department of Environmental Quality in March 2013.

⁴ http://docs.google.com/file/d/0B2oQWdaS_UuHWldwMUgtekd2bjg/edit?usp=sharing

⁵ http://docs.google.com/file/d/0B2oQWdaS_UuHSIBURXFQVDIMNHM/edit?usp=sharing, page 7, “Michigan” box, fifth paragraph. (Google Translate will convert content to English.)

⁶ Derived from document titled “Closed Ag Enforcement” obtained through email request to Nicole Zacharda, DEQ Enforcement Specialist for Water Programs, dated Jan. 7, 2013.

⁷ http://docs.google.com/file/d/0B2oQWdaS_UuHYnFFODJ2OGYtRVU/edit?usp=sharing

⁸ http://docs.google.com/file/d/0B2oQWdaS_UuHT3NaZ0w3YzR4ZTQ/edit?usp=sharing

⁹ http://docs.google.com/file/d/0B2oQWdaS_UuHUU94WXNGeE9tOEu/edit?usp=sharing

¹⁰ http://docs.google.com/file/d/0B2oQWdaS_UuHY2dCbEdjQWEwR0E/edit?usp=sharing

¹¹ Page 129 and 130 of http://www.epa.gov/region5/enforcement/reports/pdfs/ir_report2004.pdf

expansion of the size of their herd.¹¹ As part of a 2008 Administrative Consent Order the DEQ assessed Mibelloon Dairy a \$39,800 civil fine plus more than \$5,500 in investigation costs.¹²

Meanwhile, from 2006 through 2009 Mibelloon Dairy, LLC, received \$129,173 in USDA Farm Subsidies:¹³ \$15,000 in EQIP funds and \$114,173 under the Dairy Program. In addition, in 2007 a \$3,000,000 industrial revenue development bond (IRDB) was issued by the Michigan Economic Development Corporation for Mibelloon Dairy, LLC¹⁴, to go toward building a \$7.5 million expansion of the dairy CAFO, adding 2,000 animals. The IRDB approved for Mibelloon Dairy was under a program created to fund solid waste management projects. Even though the state's definition of solid waste expressly excludes wastes from livestock operations, the Mibelloon Dairy application was approved.¹⁵

Since Mibelloon Dairy, LLC, was formed in 2001, four other related businesses have been established all of which list the same address as Mibelloon Dairy, LLC, on either their business registration with the state and/or on their MDEQ issued NPDES permits. In addition, the property under both the production area of Mibelloon Dairy LLC and, until last month, under the most recent operation on the list, Wheeler Dairy, was owned by Mibelloon Investments, LLC.¹⁶

Name	Yr. Est.	Agent Address	Owner/Agent	Permittee address
Mibelloon Dairy, LLC	2001	4071 S. County Line Rd., St. Louis, MI	Leonardus and Marleen Van Loon	4071 S. County Line Road, St. Louis, MI
Mibelloon Investments, LLC	2007	4071 S. County Line Rd., St. Louis, MI	Leonardus and Marleen Van Loon	No permit
Van Loon Farms, LLC	2007	4071 S. County Line Rd., St. Louis, MI	Gert Van Loon	No permit
Redstone Dairy LLC	2009	4715 S. County Line Rd, St. Louis, MI	Wouter Van Loon	4071 SW County Line Road, St. Louis, MI
Wheeler Dairy LLC	2013	Ransom Road, Wheeler, MI	Matthew A. Romashko, atty.	4071 SW County Line Road, St. Louis, MI

Three of the facilities are permitted CAFOs which will house 8,500 dairy cows that will use 242,000 gallons of water per day when the Wheeler Dairy is operational. These operations are expected to annually generate 85,000,000 gallons of animal waste per year. However, each of these three CAFOs has been permitted with very little land on which to apply this enormous amount of waste, so under NPDES permits the operators are allowed to "manifest" (sell, give away or transfer) that waste to other agricultural operations for disposal through land application.

¹¹ Michigan Department of Environmental Quality Water Bureau Administrative Consent Order with Mibelloon Dairy LLC, signed April 14, 2008. http://docs.google.com/file/d/0B2oQWdaS_UuHX1puT3ZiNFdGRmM/edit?usp=sharing

¹² Ibid.

¹³ http://docs.google.com/file/d/0B2oQWdaS_UuHNENJcWJPnIVIM28/edit?usp=sharing

¹⁴ Certified Shareholder Report, Evergreen Money Market Trust:

http://docs.google.com/file/d/0B2oQWdaS_UuHV2hhUEYtZlF6UDQ/edit?usp=sharing

¹⁵ From Feb. 25, 2005 letter to Phil Power, MEDC vice chair, from Anne Woiwode, Sierra Club Michigan Chapter director, addressing concerns about providing economic development support to CAFOs.

http://docs.google.com/file/d/0B2oQWdaS_UuHYURsLVbzQU9RNkU/edit?usp=sharing

¹⁶ Information obtained from Midland County Map Service:

http://docs.google.com/file/d/0B2oQWdaS_UuHWml3VzdGWFUzN2c/edit?usp=sharing

Compilation of key information about facilities	Mibelloon Dairy, LLC ¹⁷	Redstone Dairy LLC ¹⁸	Wheeler Dairy LLC ¹⁹ (not yet built)	Totals
Animals	3,300 animals	1,800 animals	3,400 animals	8,500
Daily water usage GPD (gallons per day)	122,000	60,000	60,000	242,000
Waste generated (gallons annually)	46,000,000	7,000,000	32,000,000	85,000,000
Waste storage capacity (gallons)	47,212,000	6,000,000	27,000,000	80,212,000
Manifested waste (gallons)	45,000,000	6,000,000	29,000,000	80,000,000
Acres in permit application ²⁰	172	110	140	

By manifesting the wastes to another entity, the land application associated with the disposal of these wastes is excluded from the CAFO permitting process. Unlike CAFOs that own the land on which their waste is to be applied, a CAFO that “manifests” its waste to another farmer or other recipient is not required to provide the MDEQ with detailed information about the capacity of the fields to absorb the land applied wastes, nor to document if there is any discharge from that land and report it to the MDEQ. Farms that simply accept wastes from CAFOs are not covered by any permitting process, although if there are water quality violations documented those farms may be held accountable for environmental violations.

In contravention of the intention of the Clean Water Act, the ability of CAFOs to manifest wastes takes away public review and input into the lands to be used because these lands will not be included in the Comprehensive Nutrient Management Plans (CNMPs) required as part of the CAFO NPDES permit. In the case of Mibelloon Dairy, LLC, the vast majority of the waste from this facility is being manifested to Van Loon Farms, LLC,²¹ which is a business registered at the same address as Mibelloon Dairy, and which is run by Gert Van Loon, a son of Leon and Marleen Van Loon. This raises the question of common ownership among the various facilities, rules for which are spelled out by the EPA in its permit manual.²² The EPA NPDES permit manual says:

In determining whether two or more AFOs are under common ownership, the number of managers is not important. Two AFOs could be managed by different people but have a common owner (e.g., the same family or business entity owns both). For facilities under common ownership that either adjoin each other or use a common area or system for waste disposal, the cumulative number of animals confined is used to determine if the combined operation is a Large

¹⁷ Mibelloon Dairy LLC Certificate of coverage #MIG010198, under MI NPDES CAFO General Permit http://docs.google.com/file/d/0B2oQWdaS_UuHRTJNwKZCZXfFWVk/edit?usp=sharing

¹⁸ Redstone Dairy LLC Certificate of coverage #MIG010193, under MI NPDES CAFO General Permit http://docs.google.com/file/d/0B2oQWdaS_UuHcEtRTXZNVU9aUjg/edit?usp=sharing

¹⁹ Wheeler Dairy LLC NPDES CAFO Permit #MI0059093 http://docs.google.com/file/d/0B2oQWdaS_UuHITVQdGsybU5pMW8/edit?usp=sharing

²⁰ While the NPDES CAFO permits each identify how much land will be needed for land application for each facility, each of these operations has only the land needed for their production area included in the permit. Estimates for the amount of farmland needed for the application of CAFO wastes can range up to 2 acres for each dairy cow, but every field must be assessed separately and soil tests are required at least once every three years to determine the proper agronomic rate for applying phosphorous and nitrogen to that field.

²¹ Email from Gene Suoppi, MDEQ Water Bureau, Saginaw Bay District, dated June 17, 2013.

²² p. 11 2.2.6 Operations Under Common Ownership http://www.epa.gov/npdes/pubs/cafo_permitmanual_chapter2.pdf

CAFO and is used in conjunction with the discharge criteria in Section 2.2.5 to determine if the combined operation is a Medium CAFO.

If all of these Mibelloon related facilities were under common ownership, they would require an individual permit for one much larger CAFO that includes the land application areas, rather than three general NDPS permits and no permit required for the farms to which waste is manifested. Such a CAFO would also require a groundwater permit (required for a facility with over 3,500 dairy cows), and its CNMP would require documentation of all lands intended for land application of the CAFO wastes, including drainage, terrain and levels of nutrients already in the soils. In addition, the consolidation of these operations into a single CAFO might have implications for the total eligibility of these operations for Farm Bill subsidies based on total income levels according to the USDA Farm Service Agency website.²³

The case study of Mibelloon Dairy, LLC, and its affiliated operations reinforces and expands on the findings of *Restoring the Balance to Michigan's Farming Landscape*²⁴ released by the Less=More coalition in February 2013. Aside from the environmental violations documented by the USEPA and Michigan DEQ, this case study makes no claims that Mibelloon Dairy, LLC, Mibelloon Investments, LLC, Van Loon Farms, LLC, Redstone Dairy, LLC, or Wheeler Dairy, LLC, have violated any state or federal laws. This case study focuses how one set of related operations have been able to take extensive advantage of taxpayer subsidies not readily available to the average livestock farmer in Michigan, in particular those pursuing sustainable, environmentally sound practices.

Federal taxpayer subsidies continue to encourage unsustainable agricultural practices that can threaten public health and the environment, while putting Michigan's independent and local producers at a severe competitive disadvantage. The State Conservationist of the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) has the authority to change funding priorities under Farm Bill programs like EQIP and to require that funds are awarded to environmentally responsible farmers, not those which have violated state and federal environmental laws. Mibelloon Dairy, LLC and its affiliated operations serve as a poster child for the need to implement the recommendations contained in *Restoring the Balance* in Michigan now.

Ending the unfair advantages provided to CAFOs through taxpayer subsidies is a critical step in providing an even playing field for livestock farmers who are working hard to produce good food on sustainable farms. However, in a May 13th letter following the release of *Restoring the Balance*, USDA NRCS State Conservationist Garry Lee disagreed that EQIP funding criteria are unfairly benefiting polluting CAFOs, and declined a request for the report to be presented to the Michigan Technical Committee which advises him on funding priorities for EQIP. *Less=More*, a coalition of groups seeking to create a fair playing field for sustainable farms in Michigan, recognizes that national standards under the Farm Bill also put sustainable agricultural operations at a disadvantage but argues that the NRCS State Conservationist is authorized to make the changes that would address some of the inequity sustainable agriculture faces here in Michigan.

²³ Payment Eligibility and Adjusted Gross Income: <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=pmel&topic=agi>

²⁴ http://docs.google.com/file/d/0B2oQWdaS_UuHN25PalhDaldHV1U/edit?usp=sharing

